

All Agency Project Request

2011 - 2013 Biennium

<u>Agency</u>	<u>Institution</u>	<u>Building No.</u>	<u>Building Name</u>
University of Wisconsin	Milwaukee	285-OB-9950	Multi-Building
<u>Project No.</u>	13B3A	<u>Project Title</u>	Multi-Bldg Emergency Generator Repl (Cunningham/Garland/Pearse/Physics)

Project Intent

This project replaces three obsolete emergency generators that serve five academic facilities to provide emergency power required for health and safety purposes, to protect on-going research, and to protect building contents.

Project Description

CUNNINGHAM HALL (285-OB-1973): The project replaces the 50kW, 480-volt natural gas water-cooled generator located on the basement level with a new natural gas air cooled unit of similar size located on a pad outside the building. Project work also includes replacing one 480/277-volt panel, one 208/120-volt panel, and one 480-208/120-volt stepdown transformer.

GARLAND HALL/PEARSE HALL (285-OB-1959/285-OB-1958): This project replaces the 55kW, 208-volt natural gas water-cooled emergency generator located on the first level of Garland Hall with a new approximate 75kW natural gas air cooled unit located on a pad outside the building. Project work also includes replacing one 480/277-volt panel, one 208/120-volt panel, and one 480-208/120-volt stepdown transformer. Emergency circuits will be extended from the new optional load panel to serve air handlers and associated equipment supporting the research animal holding rooms. This generator also serves Vogel Hall (285-OB-963).

PHYSICS BUILDING (285-OB-1984): The project replaces the 25kW, 480-volt natural gas air-cooled emergency generator located in the roof level generator room with a new approximate 150kW natural gas unit located on a pad outside the building. Two additional automatic transfer switches will be installed to provide power to the optional standby loads, including critical building support equipment and legally required standby loads (i.e. the elevator). Emergency circuits will be extended from the new optional load panel to serve the refrigeration units and associated equipment supporting the gravitational wave research facility.

Project work includes replacing the automatic transfer switches, installing a second automatic transfer switch to provide power to critical loads, separating the life-safety loads from critical loads, and installing two new emergency panels in all three buildings.

Project Justification

The generators in Cunningham Hall, Garland Hall, Pearse Hall, and the Physics Building were installed in 1965, 1964, and 1982. They require increased maintenance and are difficult to repair since replacement parts are no longer available. The emergency power distribution systems do not meet current code since all emergency loads are fed from one panel. The current code requires separation of emergency load, legally required standby load, and optional standby load. The generator in Physics does not have adequate capacity to serve critical building systems and the gravitational wave research facility support equipment. The generator in Garland Hall/Pearse Hall does not have adequate capacity to serve critical building systems and research animal holding room support systems. Operation of these generators is essential to maintain life-safety, critical building systems, and critical research support systems during a power outage.

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A/E Consultant Requirements

☒ A/E Selection Required?

Consultants should have specific expertise and experience in the design and coordination of electrical power distribution systems, including the installation of emergency generation, as part of a design team. Work includes site surveys, acquiring field data, and verifying as-built conditions to assure accurate development of design and bidding documents, and production of necessary design and bidding documents. Consultants should indicate specific projects from past experience (including size, cost, and completion date) in their letter of interest and when known, include proposed consulting partners and specialty consultants.

Commissioning

- ☒ Level 1
☐ Level 2

Project Budget

Construction Cost:	\$470,000
Haz Mats:	\$0
Construction Total:	\$470,000
Contingency: 15%	\$70,900
A/E Design Fees: 8%	\$37,600
DFD Mgmt Fees: 4%	\$21,600
Equipment/Other:	\$0
	\$600,100

Funding Source

GFSB - Facilities Maintenance & Renovation [Z060]	\$600,100
PRSB - []	\$0
Agency/Institution Cash []	\$0
Gifts	\$0
Grants	\$0
Building Trust Funds [BTF]	\$0
Other Funding Source	\$0
	\$600,100

Project Schedule

SBC Approval: 05/2013
A/E Selection: 06/2013
Bid Opening: 03/2014
Construction Start: 05/2014
Substantial Completion: 12/2014
Project Close Out: 03/2015

Project Contact

Contact Name: Andrew C. Nelson
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Project Scope Consideration Checklist

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1. Will the building or area impacted by the project be occupied during construction? If yes, explain how the occupants will be accommodated during construction. ☒ ☐

All project work will be coordinated through campus physical plant staff to minimize disruptions to daily operations and activities.

2. Is the project an extension of another authorized project? If so, provide the project #... ☐ ☒

3. Are hazardous materials involved? If yes, what materials are involved and how will they be handled? ☐ ☒

Hazardous materials abatement is not anticipated on this project. Comprehensive building survey inventory data is available on Wisconsin's Asbestos & Lead Management System (WALMS)
<<http://walms.doa.state.wi.us/>>.

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4. Will the project impact the utility systems in the building and cause disruptions? If yes, to what extent? ☒ ☐
All project work will be coordinated through campus physical plant staff to minimize disruptions to daily operations and activities.
5. Will the project impact the heating plant, primary electrical system, or utility capacities supplying the building? If yes, to what extent? ☐ ☒
6. Are other projects or work occurring within this project's work area? If yes, provide the project # and/or description of the other work in the project scope. ☐ ☒
7. Have you identified the WEPA designation of the project...Type I, Type II, or Type III? ☒ ☐
Type III.
8. Is the facility listed on a historic register (federal or state), or is the facility listed by the Wisconsin Historical Society as a building of potential historic significance? If yes, describe here. ☐ ☒
9. Are there any other issues affecting the cost or status of this project? ☐ ☒
10. Will the construction work be limited to a particular season or window of opportunity? If yes, explain the limitations and provide proposed solution. ☐ ☒
11. Will the project improve, decrease, or increase the function and costs of facilities operational and maintenance budget and the work load? If yes, to what extent? ☒ ☐
Completion of this project will decrease operational maintenance costs.
12. Are there known code or health and safety concerns? If yes, identify and indicate if the correction or compliance measure was included in the budget estimate, or indicate plans for correcting the issue(s). ☐ ☒
13. Are there potential energy or water usages reduction grants, rebates, or incentives for which the project may qualify (i.e. Focus on Energy <<http://www.focusonenergy.com>> or the local utility provider)? If yes, describe here. ☐ ☒
14. If this is an energy project, indicate and describe the simple payback on state funding sources in years and the expected energy reduction here. ☐ ☒